

# SCIENCE & GOVERNMENT REPORT

19th Year of Publication  
The Independent Bulletin of Science Policy

Volume XIX, No. 8

P. O. Box 6226A, Washington, D. C. 20015

© May 1, 1989

## Bush Picks Yale's Bromley For Science Adviser Post

The word was leaked from the White House last month that a Science Adviser for the President has finally been selected: D. Allan Bromley, a Yale physicist who has long been among the leading prospects for the post. Bromley, 62, is a veteran of the federal advisory circuit, and was an especially active member of the White House Science Council in the Reagan Administration. While other candidates shunned the job, he apparently was keen for it.

A formal announcement, issued by the White House on April 20, said the President would nominate Bromley for Director of the Office of Science and Technology Policy (OSTP), a post that has traditionally been twinned with the job of Presidential Science Adviser. Nothing was said about Bush's campaign pledge to "upgrade the President's Science Adviser to Assistant to the President," a move that would not require Senate confirmation.

From all around science-policy circles, the choice of Bromley was greeted by public statements of approval. For

## Wyngaarden to Leave NIH—P. 4 NAS Head Optimistic on Funds—P. 5

example, Frank Press, President of the National Academy of Sciences, who held the White House science post under Jimmy Carter, warmly praised Bromley as one "who knows the issues of the health of science." Press, who holds the odd notion that a political nirvana of boundless support is just around the corner for the American scientific enterprise, told reporters, "Bromley's opportunity in this position is unmatched." A long acquaintance of Bromley, Leon Lederman, Director of the Fermilab, told the *Washington Post*, "This is a great appointment."

As Press sees it, kind words for science from the President, the Director of the Office of Management and Budget, and other senior officials indicate that the Bush Administration "has the potential for being one of the most impressive science administrations in recent history"—and Bromley, he notes, will be there in the key government post for guiding the process.

In private conversations with SGR, other leading elders of the community were somewhat less effusive about Bromley and the prospects for science under Bush, but the choice was nonetheless regarded as a good one. Bromley has had many opportunities to develop a realistic understanding of the Washington scene, despite having served as President of the American Association for the Advancement of Science. He's almost invariably referred to as aggressive—a necessary quality on the White House staff, where territorial

(Continued on Page 2)

## Disputed Paper by Baltimore Subject of New House Hearing

The David Baltimore case is moving toward a dramatic showdown as supporters of the Nobel laureate charge that he's the victim of anti-science Congressional abuse. Meanwhile, reports circulate that damning, highly embarrassing evidence will be unveiled against Baltimore and his colleagues at a House hearing scheduled for May 4. The witnesses will include forensic experts from the Secret Service, who will testify that insertions of data and changes of dates were made in the laboratory notebooks of one of Baltimore's co-authors of a disputed paper, Thereza Imanishi-Kari, formerly of MIT, now of Tufts University. Some of the data insertions are said to have been made more than two years after the experiments actually took place. The paper, on gene expression in transgenic mice, was published April 26, 1986, in *Cell*, and was hailed at once as of major importance.

The hearing will also bring forth a letter marked "confi-

(Continued on Page 3)

## In Brief

Politics is pushing science into a tougher approach to fraud and misconduct—an issue myopically belittled by some scientific mandarins as a passing whim based on misunderstandings.

*NSF has just appointed its first Inspector General—Linda G. Sundro, who comes from the office of the IG at the Commerce Department. The creation of the post was required by a new law that mandates an IG for virtually all federal agencies.*

Meanwhile, the Department of Health and Human Services has established an Office of Scientific Integrity in the Office of the Director of NIH, and an Office of Scientific Integrity Review under the HHS Assistant Secretary for Health. The new setup at NIH, scheduled for eight fulltime positions, will supplant a small and leisurely paced operation in the NIH Office of Extramural Research. Brian W. Kimes, of the National Cancer Institute, has been temporarily appointed to the new post at NIH.

*To be noted about these positions is that their occupants don't gain promotions, bonuses, or glory by finding nothing amiss.*

Gloom hangs over the National Institute for Standards and Technology (formerly the National Bureau of Standards), to which Congress last year assigned a major new role in promoting industrial competitiveness. The Reagan Administration responded by cutting NIST's budget from \$159 million this year to \$156 for FY 1990. The Bush Administration, while expressing reverence for the economic value of R&D, has endorsed the cut.

## ...Reservations on Lack of Industrial Experience

(Continued from Page 1)

fighting is renewed daily at the 7 a.m. staff meeting.

Bush's affection for his alma mater has been noted as a plus for Bromley, who is Director of Yale University's Wright Nuclear Structure Laboratory. The President and his choice for Science Adviser are said to be acquainted, but what that means is hard to say, since George Bush dedicated himself to meeting a lot of people on his long march to the White House.

The doubts expressed about Bromley are generally on the same point: As a career-long academic scientist, he has had little direct experience with the issues of industrial technology and competitiveness that are now high on the Washington agenda. As one old hand in federal science affairs put it to SGR, "Bromley would have made a great science adviser in the 1950s"—a period in which university-based science was striving for federal understanding and support. Another comment: "The White House should have made Bromley head of the National Science Foundation and put Erich in the White House." The reference here is to NSF Director Erich Bloch, a former Vice President of IBM, who, though often mentioned as a prospect for the White House post, has adamantly insisted that he prefers to stay at NSF.

Around the circuit, it's said that at least two others were ahead of Bromley in the White House's preferences for filling the science advisory post: Ralph Gomory, an IBM Vice President (who has been appointed President of the Sloan Foundation, effective in May—SGR, Dec. 1, 1988), and Solomon Buchsbaum, a Vice President of AT&T Bell Labs, who chaired the White House Science Council under Reagan.

One senior scientist, himself a former White House adviser, wryly noted that Bromley, who is not a member of the National Academy of Sciences, "has often said he should be." Bromley's work in nuclear structure is widely regarded as original and important, and worthy of Academy membership. But election to that august body also hinges on luck, connections, and timing. And, as that same senior scientist acknowledged, Bromley missed the moment. Most Presidential science advisers have been members of the Academy, though not the last two: George Keyworth II and the incumbent holdover from the Reagan Administration, William R. Graham.

In Washington politics, Academy membership matters not at all, and in Congress and elsewhere, there's sometimes confusion about what the Academy is and how it fits in with the federal government. But among some Academy members, it is regarded as a mark of grace, and the thought of one of the non-elect filling the senior science job in the U.S. government is not palatable.

Those with high hopes for Bush's receptiveness to science advice recall that he uttered promising words during the presidential campaign, and that in his February 9 budget

message, *Building a Better America* (SGR, February 15), he emphasized support for science and technology. The message restated the campaign pledge: "I will upgrade the President's Science Adviser to Assistant to the President and make him an active member of the Economic Policy Council and our national security planning processes. And I will create a President's Council of Science and Technology Advisers, composed of leading scientists, engineers and distinguished executives from the private sector."

However, it must be noted that, though Bush could have designated his choice any time after the November 8 Election Day, he waited until past mid-April. And, as of April 25th, Bromley's nomination had not been submitted to the Senate Commerce, Science, and Transportation Committee, which would be the first step in what is expected to be a smooth confirmation process. Nothing has been said publicly about the Council that Bush referred to, but presumably it could be started up from the leftover White House Science Council of the Reagan Administration. In any case, Bush has not hurried to equip the White House with the science advice that he deems so important. The lag is usually attributed to White House Chief of Staff John Sununu, a PhD in engineering, but reliable information on his role in this matter has not emerged.

In the reference to the Council, the key words in the Bush statement are "President's Council." At least semantically, this represents the upgrade long sought by the many critics who hovered around the science affairs of the Reagan Administration. In that setup, the White House Science Council advised the Science Adviser, rather than the President. The difference can be meaningless if the President doesn't care to pay attention, but for many of the anxious elders of science, it is very important to have a direct link to the President.

Another key matter is the budget for OSTP. Over the past decade, the budget and staff have sunk as the White House downgraded the importance of science advice. In real terms, it fell from \$4.8 million in 1978 to \$1.6 million this year. The

(Continued on Page 3)

### © 1989, Science & Government Report, Inc.

Editor and Publisher

Daniel S. Greenberg

European Correspondent

Francois Seguier (Paris)

Associate Publisher

Wanda J. Reif

Circulation Manager

Glen D. Grant

Independently published by Science & Government Report, Inc., twice monthly, except once each in January, July, August, and September. Annual subscriptions: Institutions, \$255.00 (two years, \$445.00). Bulk and individual rates upon request. Editorial offices at 3736 Kanawha St. NW, Washington, DC 20015. Tel. (202) 244-4135. For subscription service: PO Box 6226A, Washington, DC 20015. Tel. 1-800-522-1970; in Washington, DC 785-5054. Reproduction without permission is prohibited. SGR is available on University Microfilms International. Claims for missing back issues will be filled without charge if made within six weeks of publication date. ISSN 0048-9581.

## ... Baltimore: "All of Us Are in a Sense Culpable"

(Continued from Page 1)

"dental" from Baltimore, Director of the Whitehead Institute for Biomedical Research, at MIT, to Herman Eisen, Professor of Biology at MIT. On behalf of the MIT administration, Eisen investigated allegations by Margot O'Toole, a postdoctoral fellow under Imanishi-Kari, concerning what O'Toole said were errors in the paper. Eisen concluded there was no basis to O'Toole's claims. Baltimore has conceded that the paper contains some minor mistakes, but that it is essentially sound.

Dated September 9, 1986—five months after publication of the *Cell* paper—Baltimore's letter to Eisen addresses the controversy that was then starting over the accuracy of parts of the article, which he co-authored with Imanishi-Kari, David Weaver, and others.

"The evidence that the Bet-1 antibody doesn't do as described in the paper is clear," Baltimore's letter states. "Thereza's statement to you that she knew it all the time is a remarkable admission of guilt. Neither David Weaver nor I had any idea that there was a problem or an ambiguity with the serum. Why Thereza chose to use the data and to mislead both of us and those who read the paper is beyond me."

Baltimore's letter to Eisen goes on to ask: "...does this change the paper?" Baltimore answers: "Not really and certainly not in any fundamental sense. The sequence data shows that only rarely is the transgene active and that's the heart of the matter."

The letter continues: "A retraction would be difficult because David Weaver would be identified as senior author and he really had nothing to do with those data. All authors do have to take responsibility for a manuscript, so all of us are in a sense culpable, but I would hate to see David's integrity questioned for something he accepted in good faith and where his contribution is what makes the paper strong.

"The literature is full of bits and pieces now known to be wrong," Baltimore's letter states, "but it is not the tradition to point out each one publicly. A retraction generally goes to the heart of a paper and implies that the data is generally unreliable. If the work came solely from Thereza's laboratory, I would wonder about what else might be wrong but I am quite certain what David did is solid."

"In summary, I think that a retraction would harm the innocent and raise doubts about quite solid work. I think we should, however, acknowledge to colleagues that the Bet-1 results are not reliable and I, for one, will be skeptical of Thereza's work in the future."

### Bromley

(Continued from Page 2)

final Reagan budget, which called for \$2 million, has been endorsed by the Bush Administration, but the skimpy sum would be sufficient for a staff totaling only 15 professionals and assistants of various sorts.

SGR was unable to reach Baltimore for comment on the letter. A staff associate of his at the Whitehead Institute, asked to comment on reports that Baltimore had written a letter expressing misgivings about Imanishi-Kari's role in the research, said he was not aware of it; he added, "There are an awful lot of letters."

The disputed paper was the subject of a hearing April 12, 1988, before the Oversight and Investigations Subcommittee of the House Committee on Energy and Commerce, both chaired by Rep. John Dingell (D-Mich.) (SGR, April 15, 1988). Taking up the case through his oversight authority for the National Institutes of Health, which financed the research in question, Dingell, in his characteristically rough-handed manner, assailed NIH for what he deplored as footdragging in investigating the case. He also charged it with insensitivity to O'Toole's plight as a peon in the lab and a failure to take the issue of scientific misconduct seriously.

Following that lashing, NIH got moving on a serious inquiry that finally concluded late last year that fraud had not occurred, but that Baltimore and his co-authors were guilty of "serious errors of misstatement and omission, as well as lapses in scientific judgment and interlaboratory communication" (SGR Dec. 1, 1988). NIH directed the co-authors to submit a letter of correction to *Cell*, an assignment that was grudgingly accepted as unnecessary. The reason offered by the coauthors was that just prior to the issuance of the NIH report—but while it was in the mill and leaking all over—they had sent a minor note of correction to *Cell*. The NIH investigating panel, however, ruled it insufficient and called for a more extensive correction.

NIH Director James B. Wyngaarden appended a critical comment of his own to the official findings. Referring to the correction that had been sent to the journal, Wyngaarden stated: "It is significant to note that it was only recently that the co-authors acknowledged that some correction in the literature is warranted, based on a reevaluation of the data in support of the *Cell* paper. It is unfortunate," Wyngaarden continued, "that despite the growing challenge to the validity of their research, the coauthors did not undertake a comprehensive review of their data until they met with the NIH scientific panel."

The hearing scheduled for May 4 will bring Dingell back to the subject of NIH's handling of misconduct issues, as represented by the long-running Baltimore case. In anticipation of the proceedings, a public-relations counterattack on Dingell and his motives has been mobilized by Phillip A. Sharp, Director of the MIT Center for Cancer Research.

In a widely distributed "Dear Colleague" letter dated April 18, Sharp writes: "It seems obvious that the Congressional subcommittee has decided to hassle David [Baltimore] and the authors and this has serious implications for all of us. It is believed that at this hearing, the Dingell subcommittee and staff will again try to prove that misconduct

(Continued on Page 4)

## ... The Ham-Handed Lobby Campaign from MIT

(Continued from Page 3)

occurred, in spite of previous university and NIH reviews to the contrary."

Following the methods routinely employed by lobbying organizations, Sharp accompanied the plea to colleagues with a "sample letter to congressmen, editors," along with instructions stating, "please don't use my sample exactly."

The "sample letter" is a wondrous mangling of misinformation and kooky claims, accompanied by omissions of relevant data. It states, for example, that Dingell's investigations have "intimidated young scientists who represent this country's future" and that the inquiry "will discourage young scientists from exploring new and untested ideas and even keep students from choosing science as a career."

Unmentioned was that if anything in this episode is intimidating to young scientists, it surely must be the experience of postdoc O'Toole, whose legitimate, and subsequently substantiated, doubts about Imanishi-Kari's research produced a barrage of abuse and retribution from her mentors. Dispirited by her experience, and not likely to be endorsed for a job by the scientists she had challenged, she has dropped her plans for a research career.

Sharp's sample letter does not note that NIH initially planned to appoint two close colleagues of Baltimore to the three-member panel that was to investigate the case, but backed down when Dingell and other Congressmen responded with incredulity. Nor does it report that the NIH panel found "serious errors of misstatement and omission," as well as other lapses in the paper by Baltimore and his colleagues. No mention is made of Wyngaarden's critical remarks about the performance of Baltimore and his colleagues in the long-running controversy.

Without offering evidence—obviously because none exists—the Sharp letter states that the investigation has "compromised the workings of the American scientific enterprise." The real threat of compromise, of course, is in the defensive web that the establishment immediately threw around the challenged paper.

Sharp's model letter for colleagues also contains a striking passage, given the information that's conveyed in Baltimore's confidential letter to Eisen: Referring to Margot O'Toole's allegations about errors in the published paper, Sharp states: "The accusations were immediately investigated by highly qualified immunologists on review panels at the Massachusetts Institute of Technology and at Tufts University and reviewed by the authors. The panels found no sign of fraud or misrepresentation." Clearly important, but unmentioned by Sharp, is NIH Director Wyngaarden's statement that the "co-authors apparently did not undertake a comprehensive review of their data until they met with the NIH scientific panel"—about two years after O'Toole made the allegations.

Tentatively scheduled to testify at the May 4 hearing, in addition to the Secret Service forensic experts, are Balti-

more, Wyngaarden, Imanishi-Kari, David Weaver, and Joseph M. Davie, Senior Vice President, Searle, who chaired the three-member committee that investigated the case for NIH.—DSG

## Wyngaarden Leaving NIH After Seven Years as Director

After seven and a half years as Director of the National Institutes of Health, James B. Wyngaarden will step down in August.

The resignation was requested by the White House, but it matches with Wyngaarden's own desire to move on. He told SGR he considered it important, however, to remain on the job during the early months of the new Presidential term to signify that NIH is insulated from the usual change-of-administration shifts. In addition, Wyngaarden wanted to hang on while another post at NIH, Director of the National Cancer Institute, was filled. Samuel Broder, an NCI veteran, was eventually picked for that job. But, as reported in SGR (October 1, 1988), Nancy Reagan was pushing her own candidate, a West Coast surgeon, for the NCI directorship. Wyngaarden was in the vanguard of a quick and quiet surge of opposition that thwarted the First Lady and eventually produced the appointment of Broder.

Following the election, and prior to the appointment of Louis W. Sullivan as Secretary of Health and Human Services (HHS), NIH's cabinet parent, the White House transition team extended an invitation for Wyngaarden to remain at NIH or suggest another spot that he might be considered for. Wyngaarden told SGR at the time that he agreed to remain at NIH at least until this summer. Sullivan subsequently indicated that he wanted a new Director.

A list will be prepared by a search committee chaired by James O. Mason, HHS Assistant Secretary for Health. The most often-mentioned possibility is Anthony S. Fauci, Director of the NIH National Institute of Allergy and Infectious Diseases and chief of AIDS research at NIH.

Wyngaarden has remained on leave from the Duke University School of Medicine, where he was Chairman of the Department of Medicine when he was appointed head of NIH in 1982. But he told SGR that he hasn't decided what he will do after he leaves NIH. He noted that his departure is set for August, despite press reports that he plans to leave July 1.

Wyngaarden's style of management at NIH has spawned considerable differences of opinion over how his administration should be scored for success. Unlike his visibly super-active predecessor, Donald Fredrickson, Wyngaarden has a quiet, gentle manner. Unlike most other agency heads in the federal research bureaucracy, he doesn't perform as a round-the-clock salesman for his agency and its budget.

(Continued on Page 5)

## Academy Head Sees New Consensus for Science

Another couple of billion dollars a year would put American science on the way to overcoming the manpower, equipment, and facilities problems that threaten its supremacy. And there are good indications that President Bush, the chief of OMB, and other senior Administration officials are so sympathetic to science that the money might be forthcoming.

That chipper, and rare, assessment of the current science-and-government scene was delivered last week by Frank Press, President of the National Academy of Sciences, at the NAS annual meeting in Washington. With evangelical zeal, Press came out of a flu sickbed to brief the press and deliver his speech, titled "How to Run American Science (Successfully)."

Reminded that at last year's outing, he had dourly warned that it is "unrealistic to argue for generous funding of both science and social programs until the deficit is brought under control," Press expressed confidence that the Bush Administration and the new Congress see things differently (SGR, May 1, 1988, "Priority System Urged to End Strife Over R&D Funds"). He added that last year's talk was delivered in the wake of the October 1987 stockmarket crash, but that since then a consensus has developed for "investing in the future."

National security can no longer be defined solely in military terms, he said, but must also be viewed in economic terms. For that reason, he argued, a new entity, the National Economic Security Council, should be established as a parallel to the National Security Council. And the President's Science Adviser should have a seat on the new body, he said.

"Most Americans," Press said in his address, "do see a strong science as essential to a successful future; and they do so despite troublesome and well-publicized issues such as charges of fraud and the use of animals in research. This is

### Wyngaarden

(Continued from Page 4)

But the budget books show that NIH experienced extraordinary growth during his directorship, rising from \$3.2 billion in 1982 to \$7.2 billion this year—despite the frugal designs of Reagan's Office of Management and Budget. Congress's traditional affection for biomedical research helped greatly, but Wyngaarden admirers say that his good relations with the legislators were also a key factor.

Wyngaarden takes pride in the financial growth and also in the NIH's responses to the AIDS crisis and the ongoing flurry of political attention to scientific misconduct.

There are doubters on those points. But the fact is that the NIH Director possesses very little statutory or administrative power. Fredrickson used to say that the job is akin to the presidency of Switzerland.

reflected at all political levels." Press pointed out that the President has often stressed the importance of science, as have the Director of the Office of Management and Budget and the Secretary of the Treasury.

Press took heart from the ruminations of one of the leading phantasmagorists of the politics of money for science, Leon Lederman, Nobel laureate and impresario of a preeminent sinkhole of research, the Fermilab. Lederman, said the Academy President, "put the science budget in perspective when he pointed out that during the Reagan presidency, the defense budget doubled to \$300 billion. It would hardly produce a ripple to double the basic science budget to \$20 billion in five years; yet, think of the returns in terms of diseases cured, new technologies and industries created, and environmental problems addressed."

In his address to the members, Press said that his proposals, focused on support for research, training, equipment, and facilities, "will require more funds and better allocation. Some will view this as unrealistic at a time when the nation is struggling with a severe budget deficit. However, for overall federal expenditures, the new resources required are surprisingly modest, and the returns great."

Though Bush, in fact, has done nothing but effuse about science and then merely rubberstamp the R&D spending proposals that Reagan left behind, Press exuded confidence about the new Administration's concerns for science. "I believe," he said, "that the new leaders of our country recognize the vital importance of maintaining our scientific leadership."

Press continued: "The overall level of support for science is a political decision—one that should reflect the priorities of the President and the Congress. Those priorities should reflect their vision of where the nation's future lies. And that vision should be given detail by a capable and informed science-advisory apparatus in the White House and by knowledgeable science managers in the agencies."

"We need some perspective in thinking about funding levels," Press said. "For example, the FY 1989 federal budget for research and development approved by the Congress is \$63.8 billion. Almost 60 percent of that, \$37 billion, is for defense development, testing, and evaluation."

"And of a total R&D budget of almost \$64 billion, \$10.2 billion will go to basic science. That's 10 percent above last year's basic science budget. Discounting inflation, the real growth in basic science funding is six percent."

Proceeding with the numbers exercise—a common approach among Washington interests looking for just a bit more from the strained federal budget—Press said: "Ten percent annual growth doubles the basic science budget in seven years. I propose that the government accelerate that rate—to double federal investments in basic science over five years for all agencies with science in their missions, just as President Bush proposes to do for the National Science

(Continued on Page 6)

## ... Urges Help for the "Quality of Life" in Science

(Continued from Page 5)

Foundation. That's an annual growth rate for basic science of about 14 percent."

The justification for favored budgetary treatment of science, Press said, is that "there are few federal investments that return as much in dividends. And wise managers will recognize that even at a time of deficits, they must continue to invest in the future."

With the additional money from an acceleration of growth, Press said, grants could be provided for a higher proportion of worthy projects, and funding shortages could be eased for training, equipment, and general scientific activities. In addition, "It would help support the best superprojects. It would begin to make it possible to extend the geographic reach of the scientific enterprise, allowing aspiring institutions to reach higher. And surprisingly," he explained, "the added cost to the nation over five years would be modest—about \$10 billion. In any case," he said, "I believe that this proposed growth is manageable, if peak spending is delayed until the budget deficit is reduced."

Press also called for improving the "quality of life" for scientists, by cutting paperwork requirements and taking some of the strain and anxiety out of the quest for grants. "Working scientists," he said, "view university administrators as threats to their research funds"—which, though Press didn't acknowledge it, is what they are, because of the

inordinate bite they extract for so-called indirect costs. "Washington administrators," he continued, "are regarded with suspicion for tampering with a research grant system that has a proven record of success. Regardless of the merits of these concerns, the stress on our scientists is evident. And it is making an indelible impression on students who observe their mentors and wonder, as they ponder career choices, if there is any fun left in doing science."

Success has been achieved, he said, in countering this "bureaucratic accretion" through a paperwork-reduction project in Florida universities, co-sponsored by OMB, federal research agencies, and the Academy. Now expanded to 21 universities and consortia in 14 states, Press said, the process should be extended to development of a "simplified application for a multi-year grant" that would be "common to all of the agencies supporting science."

In his meeting with reporters, Press brushed aside comments about the resistance that would be stirred by his proposals, particularly his suggestion for establishment of a National Economic Security Council. He noted that he's been in Washington with little interruption since serving as White House Science Adviser under Jimmy Carter. Big changes are not quickly accepted, but if you keep pounding, he said, progress can be made. The big difference for science, Press argued, is that it now has "a confluence of support" in politics and among the public.

## France: Scientists Feel Good Under Sympathetic Government

**P**aris. After many cycles of grand election promises and subsequent neglect, the research enterprise here finds itself in a rare state of affluence and political support.

Research was declared a major priority by candidate Mitterrand during the 1988 presidential campaign. Mitterrand's personal interest in these matters is shared by his choice for Prime Minister, Michel Rocard, son of a luminary of French physics, Yves Rocard, a leader in the French nuclear weapons program. Once elected, Mitterrand and his new government promptly set out to fulfill the campaign pledges.

One of the leading figures of research administration, Hubert Curien, who had served as the head of Mitterrand's re-election committee, was subsequently appointed Minister for Research and Technology—a widely applauded choice in research circles. And for the second successive year, the government R&D budget is to be increased by about 10 percent.

The French space agency is among the big gainers, with a budget increase of 20 percent. Overall, the goal is to increase national R&D expenditures from the present 2.27 percent to 3 percent of gross national product. (The US is currently at 2.8 percent; Japan at 2.6 percent.)

Reversing several years of stagnation, the budget increases have created new positions for researchers, addi-

tional fellowships for science studies, as well as increases in the size of stipends. The attention to manpower was long overdue. In fact, shortages of qualified personnel have become a hinderance to important R&D programs.

As in the US, concern is increasingly apparent about the large share of R&D devoted to military work—31 percent of government funds, compared to 12.5 percent in West Germany. The US is far higher, with some 65 percent of federal R&D funds going to the Pentagon, but then, the US is so much bigger that its civilian R&D spending adds up to a formidable figure compared to that of other nations.

Sympathetic political interest and generous budgets are the new factors in French scientific affairs. Still lacking, however, is an ordering of priorities among the many important tasks that confront the nation. For example, the ozone problem is regularly addressed at conferences, but there's no policy for dealing with it, nor have scientific resources been devoted to working on it. Some \$20 million has been provided for AIDS research, but there's no coordination of the work going on in various places.

In the current mood of favor for science, the explanation for these failings is simply that scientists lost their drive during the lean years imposed by the previous Prime Minister, conservative Jacques Chirac, who had little interest in scientific affairs.—FS

## ... Pay Equity, Health Grants, R&D and Growth

(Continued from Page 8)

**Order from:** Ministerie van Onderwijs en Wetenschappen, Europaweg 4, Postbus 2500, 2700 LZ Zoetermeer, The Netherlands; tel. 079/53 19 11.

**Pay Equity: Empirical Inquiries** (258 pp., \$27.95 paper-bound; \$37.95 hardbound), papers from a September 1987 workshop held by the Panel on Pay Equity, an offshoot of the National Academy of Sciences' Committee on Women's Employment and Related Social Issues. The panel is chaired by Robert T. Michael, University of Chicago, and its work was supported by the Ford and Rockefeller foundations. Related publications from the Academy: *Comparable Worth: New Directions for Research* (\$14.50); *Women, Work, and Wages* (\$16.50).

**Order from:** National Academy Press, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 202/334-3313.

**Directory of International Grants and Fellowships in the Health Sciences** (74 pp., no charge), prepared by the Fogarty International Center for Advanced Study in the Health Sciences, NIH, lists support available from organizations in the US and many other nations for research and study in biomedical fields. Included are addresses and telephone numbers of the providers, details on eligibility, and other useful information. Supply of publication is limited.

**Order from:** Public Affairs Office, Fogarty International Center, NIH, Building 16, Room 307, Bethesda, Md. 20892; tel. 301/496-207

**Meeting the Needs of a Growing Economy: The CORE-TECH Agenda for the Scientific and Technical Workforce** (28 pp., no charge), policy statement from the Council on Research and Technology, Washington-based lobbying consortium of some 50 big high-tech firms, 80 universities, plus others, cites the looming drop in the college-age population, the derelict state of science education in the US, and calls for the usual remedies, including big increases in federal support for undergraduate and graduate education, career-long continuing education, and expanded efforts to increase the numbers of women and minority-group members in science and engineering.

**Order from:** CORETECH, 1735 New York Ave. NW, Suite 500, Washington, DC 20006-4759; tel. 202/662-8407.

**World of Winners** (977 pp., \$60), first edition, lists 8100 recipients of 243 major awards in science, technology, and engineering, plus others in health and medicine, among 75,000 award winners in various endeavors, from sports through battlefield heroics.

**Order from:** Gale Research, Inc., Book Tower, Detroit, Michigan 48226; tel. 1-800-223-GALE; in Michigan: 961-2242.

**Costs and Effectiveness of Cholesterol Screening in the Elderly** (USGPO No. 052-003-011-51-4; 57 pp., \$3), report by the Congressional Office of Technology Assessment, part of its series on Preventive Health Services Under Medicare, says that "epidemiological evidence does not confirm that detecting and treating hypercholesterolemia in the elderly will increase their longevity." OTA notes that if the entire elderly population were to comply with the cholesterol-monitoring recommendations of the National Heart, Lung, and Blood Institute, the cost would be \$1.5-4 billion by 1995, "depending on frequency of risk factors and the monitoring required for prescribed medications."

**Order from:** Superintendent of Documents, USGPO, Washington, DC 20402-9325; tel. 202/783-3238.

**Health and Development** (bi-monthly, \$24 per year), a new magazine, published by the Catholic University Institute for International Health and Development, "devoted to examining public health and development policies affecting developing nations."

**Order from:** Catholic University of America, Institute for International Health and Development, 1120 Vermont Ave. NW, Suite 610, Washington, DC 20005; tel. 202/835-9056.

## AAAS Gets Education Fund

A three-year grant of \$750,000 has been awarded to the American Association for the Advancement of Science by the Bell Atlantic Charitable Foundation to operate a program for training teachers in communications technologies for classroom use. According to an announcement from the AAAS, 50 teachers will participate each year in two-week sessions to be held at George Washington University.

### To Order or Renew

Science & Government Report  
Northwest Station, Box 6226A  
Washington, D.C. 20015

Renew my subscription;  Check enclosed  
 Enter my subscription;  Please Bill

Institutional subscribers: one year, \$255.00   
two years, \$445.00

(Overseas airmail, \$35.00 per year; overseas surface \$15.00 per year additional.)

Name \_\_\_\_\_

Address \_\_\_\_\_

Zip \_\_\_\_\_

Toll-Free Subscription Service: 1-800-522-1970;  
In Wash., D.C.: 785-5054

## In Print: R&D in "Mid-America," GOP Science, Etc.

*The publications listed are obtainable as indicated—not from SG&R.*

**Science and Technology in Mid-America: Fact Book** (25 pp., \$10), a regional brief on the theme of maldistribution of federal R&D funds, produced by the Institute for Illinois (a booster organization created by its Congressional delegation) and the Council of Great Lake Governors (comprising Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin, with Pennsylvania on the fringe), says the area is "shortchanged" by a "bi-coastal bias." Among the evidence: the coastal states averaged \$347 per capita in federal R&D while the mid-America group got \$101. "The region as a whole," says the report, "receives a smaller share of [federal] R&D resources than other areas of the country"—though it ranks very high in company-financed R&D, a finding that mocks the R&D agencies' old alibi that to get Washington's money you first must help yourself.

Order from: Institute for Illinois, 525 School St. SW, Suite 304, Washington, DC 20024; tel. 202/488-3640.

**House GOP Science News** (monthly, no charge), a new publication (two pages in the first number) reporting views and activities of the Republicans on the House Science, Space, and Technology Committee. Heavily outvoted (29-19), the Republicans actually have little clout, but the Committee attracts a membership that's strongly pro-science, and generally runs in bipartisan harmony, including issues on which the Democratic majority opposes White House frugality on R&D issues. The publication was initiated by Rep. Robert S. Walker (R-Pa.), the ranking Republican on the Committee.

Order from: Rep. Robert S. Walker, 2445 Rayburn Office Building, Attn: Lou Zickar, Washington, DC 20515; tel. 202/225-2411.

**Science Agenda** (quarterly, 16 pp., no charge), by the Science Directorate of the American Psychological Association, packed with exasperated commentary on Wash-

ton's fiscal neglect of social and behavioral sciences research (e.g., "In a transparent effort to contradict the objective statistics on NSF support declines, [NSF Director] Bloch . . ." Also contains news of the APA and other professional matters.

Order from: APA, Science Directorate, 1200 17th St. NW, Washington, DC 20036; tel. 202/955-7653; Bitnet: APASDKLH@GWUVM.

**Report of the Committee on a Commercially Developed Space Facility** (110 pp., no charge), by a panel of the National Academy of Sciences, chaired by Joseph F. Shea, Senior Vice President for Engineering, Raytheon. Convened at the request of NASA, the panel expresses strong doubts about the need for a commercially developed facility. Reporting that it "found no evidence to suggest microgravity research would lead to significant space-based manufacturing in the next five years," the Committee noted that a "commercially" developed facility would cost NASA at least \$700 million. It added that over 85 percent of proposed microgravity experiments could be accommodated by shuttle missions extended to 16 days, and virtually all by 28-day missions.

Order from: Committee on a Commercially Developed Space Facility, National Academy of Sciences, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 202/334-2855.

**Internationalisation of Education and Research: Policy Memorandum** (64 pp., no charge), in English, from the Netherlands Ministry of Education and Science, in anticipation of Europe's 1992 goal of economic integration, discusses steps to be taken by government ministries and academic and industrial research organizations to "work in an international environment to a far greater extent than previously." Among the measures recommended are earmarking of funds for international collaboration in research, establishment of an information clearinghouse, promotion of exchanges of researchers and students, etc.

(Continued on Page 7)

Science & Government Report  
Northwest Station  
Box 6226A  
Washington, D.C. 20015

Second-Class Postage Paid  
At Washington, D. C.

UNIVERSITY MICROFILMS INC.  
SERIALS ACQUISITIONS  
300 N. ZEEB RD.  
ANN ARBOR, MI 48106

